AMENDMENTS TO THE CLAIMS

1 - 3. (Cancelled)

4. (Previously Presented) Hearing aid with an anti feedback system that operates in one of at least two adaptation modes, a fast adaptation mode and a slow adaptation mode, the hearing aid comprising:

a directional processing block that:

receives input signals from two or more microphones,

generates a DIR-signal with directional sensitivity and an OMNI-directional signal, and

provides, as an output signal, an addition of the DIR and OMNI signals, where the addition is performed by a fader that subjects both signals to gain factors before addition, and wherein the gain, α_{omni}, applied to the OMNI-signal has a value between 0 and 1, inclusive, and wherein the gain applied to the DIR-signal is $(1-\alpha_{omni})$,

an acoustic environment detector that determines whether input signals from said microphones are directional or omni-directional,

a trigger that generates an alert signal to the anti feed back system, said alert indicating the adaptation mode for the anti feedback system based on the value of α_{omni}, and

a controller that controls the trigger and the fader by generating a value for α_{omni} based on input from the acoustic environment detector.

5. (Cancelled)

6. (Previously Presented) Hearing aid of claim 4, wherein the anti-feedback system changes to a fast adaptation mode based on the alert signal.

7. (Previously Presented) Hearing aid of claim 4, wherein α_{omni} gradually changes its value from 0 to 1, or vice versa, when the directional processing block is changing mode.

8. (Previously Presented) Hearing aid of Claim 4, wherein the trigger generates an alert signal indicating a fast adaptation mode when α_{omni} has a value in the middle of its value range.

9 - 10. (Cancelled)

11. (Previously Presented) Hearing aid as claimed in claim 4 wherein the anti feedback system includes an adaptive feedback tracking portion to track the changes of an external feedback path.

12. (Previously Presented) Hearing aid as claimed in claim 11 wherein the anti feedback system includes an FIR filter and a parameterized model of the feedback, where the model parameters are the coefficients of the FIR filter.

13. (Currently Amended) Hearing aid as claimed in claim 12 wherein the adaptive feedback tracking portion includes a prediction error ~~sub-unit~~method that adjusts model parameters so that energy in a residual signal after cancellation is minimized, and wherein the parameters are updated with a step given by an adaptive algorithm with a predefined step size μ_0, wherein μ_0 determines the adaptation speed of the FIR filter.

14. (Previously Presented) Hearing aid as claimed in claim 13 wherein the step size is adjustable.

15. (Previously Presented) Hearing aid as claimed in claim 13 wherein there is a large and a small value of μ_0 such that the small value causes slow adaptation of the FIR filter, and the large value causes fast adaptation of the FIR filter.

16. (Previously Presented) Hearing aid as claimed in claim 15 wherein the anti feedback system includes a tone detector that triggers fast adaptation of the FIR filter when said tone detector detects howl.

17. (Previously Presented) Hearing aid as claimed in claim 16 wherein the anti-feedback system further includes a tone detector that detects howl, and wherein faster adaptation of the FIR filter is used when the tone detector detects howl.

18. (Previously Presented) Hearing aid as claimed in claim 17, wherein a hysteresis is used to allow for fast adaptation in a predefined period after the howl has vanished or after a transition in α_{omni}.

19. (Previously Presented) Hearing aid as claimed in claim 4 wherein the directional processing block is part of an external feedback path estimated by the anti feedback system.

20. (Currently Amended) A method for preventing feedback in a hearing aid with an anti feedback system that operates in one of at least two adaptation modes, a fast adaptation mode and a slow adaptation mode, the method aid comprising:

receiving input signals from two or more microphones;

generating a DIR-signal with directional sensitivity and an OMNI-directional signal;

providing, as an output signal, an addition of the DIR and OMNI signals, where the addition includes subjecting both signals to gain factors before adding them, and wherein the gain, α_{omni}, applied to the OMNI-signal has a value between 0 and 1, inclusive, and wherein the gain applied to the DIR-signal is $(1-\alpha_{omni})$;

determining whether input signals from said microphones are directional or omni-directional;

generating an alert signal to the anti feed back system, said alert indicating the adaptation mode for the anti feedback system based on the value of α_{omni}, and

controlling ~~the trigger~~the addition of the DIR and OMNI signals and ~~the fader~~said generating an alert signal by generating a value for α_{omni} based on results of said determining, such that the adaptation mode and the output signal are both governed by directional characteristics of the input signals from said microphones.

21. (Previously Presented) The method of claim 20, the method further including tracking changes of an external feedback path with an adaptive algorithm.

22. (Previously Presented) The method of claim 20, where the results of said determining are generated based on a level of the OMNI-signal, a level of the DIR signal and an estimation of a signal-to-noise ratio in the input signal.

23. (Previously Presented) The method of claim 21, where the anti-feedback system includes an FIR filter and a parametrized model of the feedback, such that the parameters are the coefficients of the FIR filter.

24. (Previously Presented) The method of claim 23, the method further including:

adjusting the coefficients with the adaptive algorithm, where the adaptive algorithm is based on a prediction error method, so that energy in a residual signal after cancellation is minimized; and

updating the coefficients by a step of predefined size μ_0, where μ_0 is a scalar value that controls how fast the FIR filter can adapt to changes in the external feedback pack.